

WHAT IS CLAIMED AS NEW AND DESIRED TO BE PROTECTED BY LETTERS  
PATENT OF THE UNITED STATES OF AMERICA, IS:

1. A cargo air bag, comprising:

5           an inflatable bladder having an aperture defined  
therein;

          a plurality of paper plies having a plurality of  
apertures respectively defined therewithin and enveloping  
said inflatable bladder such that said inflatable bladder is  
10 disposed internally within said plurality of paper plies;

          a first closed side edge portion defined upon said  
cargo air bag as a result of said plurality of paper plies  
being folded over upon themselves along one side portion of  
said plurality of paper plies;

15           means for closing end portions of said plurality of  
paper plies so as to define a second closed end edge portion  
upon said cargo air bag which cooperates with said first  
closed side edge portion of said cargo air bag in defining a  
corner region of said cargo air bag;

20           an inflation valve assembly comprising a flange  
portion sealed to said inflatable bladder, and an externally  
threaded tubular body member projecting outwardly through  
said apertures defined within said inflatable bladder and  
said plurality of paper plies so as to be fluidically con-  
25 nectible to a source of pressurized air, said inflation valve  
assembly being disposed within said corner region of said  
cargo air bag such that said inflation valve assembly is par-  
tially circumscribed upon two sides thereof by said first  
closed side and second closed end edge portions of said cargo  
30 air bag; and

connection means for connecting together said plurality of paper plies within the vicinity of said inflation valve assembly and for cooperating with said first closed side and second closed end edge portions of said cargo air bag for additionally circumscribing said inflation valve assembly such that portions of said plurality of paper plies, interposed between said inflation valve assembly and said first closed side and second closed end edge portions of said cargo air bag, and between said inflation valve assembly and said connection means, are maintained in a substantially flattened state so as to not to engage threaded portions of said externally threaded tubular body member of said inflation valve assembly and thereby not interfere with the threaded engagement of a closure cap upon said externally threaded tubular body member of said inflation valve assembly.

2. The cargo air bag as set forth in Claim 1, wherein:

said means for closing end portions of said plurality of paper plies comprises fabric means for covering said end portions of said plurality of paper plies, and stitching for sewing said fabric means onto said end portions of said plurality of paper plies.

3. The cargo air bag as set forth in Claim 1, wherein:

said connection means comprises a plurality of adhesive strips.

4. The cargo air bag as set forth in Claim 3, wherein:

said plurality of adhesive strips comprises a pair of adhesive strips.

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5. The cargo air bag as set forth in Claim 4, wherein:

said pair of adhesive strips extend inwardly from said first closed side and second closed end edge portions of said cargo air bag so as to intersect each other and form a corner region disposed diametrically opposite said corner region of said cargo air bag as defined by the intersection of said first closed side and second closed end edge portions of said cargo air bag.

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6. The cargo air bag as set forth in Claim 5, wherein:

said pair of adhesive strips are disposed perpendicular to each other such that a first one of said pair of adhesive strips is disposed parallel to said first closed side edge portion of said cargo air bag while a second one of said pair of adhesive strips is disposed parallel to said second closed end edge portion of said cargo air bag.

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7. The cargo air bag as set forth in Claim 4, wherein:

said pair of adhesive strips are disposed within the immediate vicinity of said flange portion of said inflation valve assembly.

8. The cargo air bag as set forth in Claim 4, wherein:

5 said pair of adhesive strips, together with said first closed side and second closed end edge portions of said cargo air bag, are disposed upon four sides of said inflation valve assembly so as to define a substantially square-shaped closure pattern surrounding said inflation valve assembly.

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10 9. A cargo air bag including an inflatable bladder having an aperture defined therein; a plurality of paper plies having a plurality of apertures respectively defined therewithin and enveloping said inflatable bladder such that said inflatable bladder is disposed internally within said plurality of paper  
15 plies; a first closed side edge portion defined upon said cargo air bag as a result of said plurality of paper plies being folded over upon themselves along one side portion of said plurality of paper plies; means for closing end portions of said plurality of paper plies so as to define a second  
20 closed end edge portion upon said cargo air bag which cooperates with said first closed side edge portion of said cargo air bag in defining a corner region of said cargo air bag; and an inflation valve assembly comprising a flange portion sealed to said inflatable bladder, and an externally threaded  
25 tubular body member projecting outwardly through said apertures defined within said inflatable bladder and said plurality of paper plies so as to be fluidically connectible to a source of pressurized air, said inflation valve assembly being disposed within said corner region of said cargo air bag  
30 such that said inflation valve assembly is partially circumscribed upon two sides thereof by said first closed side and

second closed end edge portions of said cargo air bag, the improvement comprising:

connection means for connecting together said plurality of paper plies within the vicinity of said inflation valve assembly and for cooperating with said first closed side and second closed end edge portions of said cargo air bag for additionally circumscribing said inflation valve assembly such that portions of said plurality of paper plies, interposed between said inflation valve assembly and said first closed side and second closed end edge portions of said cargo air bag, and between said inflation valve assembly and said connection means, are maintained in a substantially flattened state so as to not to engage threaded portions of said externally threaded tubular body member of said inflation valve assembly and thereby not interfere with the threaded engagement of a closure cap upon said externally threaded tubular body member of said inflation valve assembly.

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10. The cargo air bag as set forth in Claim 9, wherein:

said means for closing end portions of said plurality of paper plies comprises fabric means for covering said end portions of said plurality of paper plies, and stitching for sewing said fabric means onto said end portions of said plurality of paper plies.

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11. The cargo air bag as set forth in Claim 9, wherein:

said connection means comprises a plurality of adhesive strips.

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12. The cargo air bag as set forth in Claim 11, wherein:

said plurality of adhesive strips comprises a pair of adhesive strips.

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13. The cargo air bag as set forth in Claim 12, wherein:

said pair of adhesive strips extend inwardly from said first closed side and second closed end edge portions of said cargo air bag so as to intersect each other and form a corner region disposed diametrically opposite said corner region of said cargo air bag as defined by the intersection of said first closed side and second closed end edge portions of said cargo air bag.

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14. The cargo air bag as set forth in Claim 13, wherein:

said pair of adhesive strips are disposed perpendicular to each other such that a first one of said pair of adhesive strips is disposed parallel to said first closed side edge portion of said cargo air bag while a second one of said pair of adhesive strips is disposed parallel to said second closed end edge portion of said cargo air bag.

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15. The cargo air bag as set forth in Claim 12, wherein:

said pair of adhesive strips are disposed within the immediate vicinity of said flange portion of said inflation valve assembly.

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16. The cargo air bag as set forth in Claim 12, wherein:

said pair of adhesive strips, together with said first closed side and second closed end edge portions of said cargo air bag, are disposed upon four sides of said inflation valve assembly so as to define a substantially square-shaped closure pattern surrounding said inflation valve assembly.

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17. A method of fabricating a cargo air bag, such that portions of the plurality of paper plies disposed within the vicinity of its inflation valve assembly will not interfere with the threaded engagement of a closure cap upon the inflation valve assembly, comprising the steps of:

enveloping an inflatable bladder, having an aperture defined therein, within a plurality of paper plies, also having a plurality of apertures respectively defined there-within, such that said inflatable bladder is disposed internally within said plurality of paper plies;

folding said plurality of paper plies upon themselves along one side portion of said plurality of paper plies so as to form a first closed side edge portion upon said cargo air bag;

closing end portions of said plurality of paper

plies so as to define a second closed end edge portion upon said cargo air bag which cooperates with said first closed side edge portion of said cargo air bag in defining a corner region of said cargo air bag;

5 installing an inflation valve assembly, comprising a flange portion and an externally threaded tubular body member, within said cargo air bag such that said flange portion of said inflation valve assembly is sealed to said inflatable bladder while said externally threaded tubular body member  
10 projects outwardly through said apertures defined within said inflatable bladder and said plurality of paper plies so as to be fluidically connectible to a source of pressurized air, and wherein said inflation valve assembly is disposed within said corner region of said cargo air bag such that said in-  
15 flation valve assembly is partially circumscribed upon two sides thereof by said first closed side and second closed end edge portions of said cargo air bag; and

connecting together said plurality of paper plies by means disposed within the vicinity of said inflation valve  
20 assembly in such a manner as to cooperate with said first closed side and second closed end edge portions of said cargo air bag so as to additionally circumscribe said inflation valve assembly such that portions of said plurality of paper plies, interposed between said inflation valve assembly and  
25 said first closed side and second closed end edge portions of said cargo air bag, and between said inflation valve assembly and said connection means, are maintained in a substantially flattened state so as to not to engage threaded portions of said externally threaded tubular body member of said infla-  
30 tion valve assembly and thereby not interfere with the threaded engagement of a closure cap upon said externally



threaded tubular body member of said inflation valve assembly.

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18. The method as set forth in Claim 17, further comprising the steps of:

closing said end portions of said plurality of paper plies by using fabric for covering said end portions of  
10 said plurality of paper plies; and

stitching said fabric means onto said end portions of said plurality of paper plies.

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19. The method as set forth in Claim 17, further comprising the step of:

forming said connection means as a plurality of adhesive strips.

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20. The method as set forth in Claim 19, further comprising the steps of:

25 forming said plurality of adhesive strips as a pair of adhesive strips.

30 21. The method as set forth in Claim 20, further comprising the step of:

forming said pair of adhesive strips so as to extend inwardly from said first closed side and second closed end edge portions of said cargo air bag and thereby intersect each other and form a corner region disposed diametrically opposite said corner region of said cargo air bag as defined by the intersection of said first closed side and second closed end edge portions of said cargo air bag.

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22. The method as set forth in Claim 21, further comprising the step of:

disposing said pair of adhesive strips perpendicular to each other such that a first one of said pair of adhesive strips is disposed parallel to said first closed side edge portion of said cargo air bag while a second one of said pair of adhesive strips is disposed parallel to said second closed end edge portion of said cargo air bag.

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23. The method as set forth in Claim 20, further comprising the step of:

disposing said pair of adhesive strips within the immediate vicinity of said flange portion of said inflation valve assembly.

30 24. The method as set forth in Claim 20, further comprising the step of:

disposing said pair of adhesive strips, together  
with said first closed side and second closed end edge por-  
tions of said cargo air bag, upon four sides of said infla-  
tion valve assembly so as to define a substantially square-  
5 shaped closure pattern which surrounds said inflation valve  
assembly.

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